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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
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09/582,152 09/05/00 JONES

C 00456/HG

EXAMINER

HM22/0731

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NEW YORK NY 10017-2023

HUT S
ART UNIT PAPER NUMBER

1617
DATE MAILED:

07/31/01

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trad marks

Office Action Summary

Application No.

09/582,152

Applicant(s)

JONES ET AL.

Examiner

San-ming Hui

Art Unit

1617

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-17 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-17 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). ____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 7 6) ☐ Other:

DETAILED ACTION

Specification

The examiner cannot understand the invention because certain portions of the disclosure are illegible. The illegible portion(s) consist of the following:

Page 2, line 7, 17, and 26;

Page 3, line 26;

Page 4, line 1;

Page 5, line 13 and 22;

Page 6, line 14, and 17;

Page 8, line 9 and 18;

Page 9, line 12 and 18;

Page 14, line 28 and 31;

Page 15, line 20;

Page 16, line 16;

Page 18, Test method Details;

Page 19, Results;

Page 22, line 4.

A substitute specification under 37 CFR 1.125(b) may be filed to correct this deficiency. The substitute specification must be accompanied by: (1) a statement that the substitute specification contains no new matter; and (2) a marked-up copy showing the amendments to be made via the substitute specification relative to the specification at the time the substitute specification is filed.

Claim Objections

Claim 14 is objected to because of the following informalities: there are holes punched in the claim so that it is not completely readable (the upper margin page 25 is not sufficient). Appropriate correction is required.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 1-17 are rejected under 35 U.S.C. 112, first paragraph, because the specification does not reasonably provide enablement for any non-surfactant biopenetrant. The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to use the invention commensurate in scope with these claims.

There is no adequate direction provided by the applicant as to how to select a suitable biopenetrants to be used in the invention to form a synergistic anti-microbial composition and remove microbes in aqueous system. Furthermore, the instant specification does not provide any working examples to show how non-surfactant biopenetrants may be used successfully in the invention to form a synergistic anti-microbial composition and remove microbes in aqueous system.

Moreover, it is known in the art that different compounds may have different potency and activity because of the structural and conformational differences in the compounds. Therefore a different biopenetrants may be reasonably expected to yield a

different result in a synergistic anti-microbial composition or in a method of inhibit microbes in aqueous system. Due to this unpredictability, it would prevent the skilled artisan from determining compounds which may be termed an "biopenetrant" to retain the desired function of the instant invention to form a synergistic anti-microbial composition and remove microbes in aqueous system without undue experimentation.

Please note that claim 1 and 13 recites a limitation "synergistic" and "non-surfactant biopenetrant synergist" in line 1 and line 3 respectively. Synergism is an unexpected and highly unpredictable effect. Applicant must demonstrate such an unexpected result for a representative number of compounds of the very broad genus herein (See MPEP 716.02(b)). Synergism should be demonstrated with evidence that the differences in results are in fact unexpected and unobvious and of both statistical and practical significance. *Ex parte Gelles*, 22 USPQ2d 1318, 1319 (Bd. Pat. App. & Inter. 1992). Moreover, evidence as to synergism (i.e., unexpected benefits) must be "clear and convincing" *In re Lohr*, 137 USPQ 548 (CCPA 1963), and be of a scope reasonably commensurate with the scope of the subject matter claimed, *In re Linder*, 173 USPQ 356 (CCPA 1972). In the instant case, such evidence to demonstrate synergism is not present.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 3-4 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 3 does not recite a definition for the substituent "R¹".

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 2, and 16-17 are rejected under 35 U.S.C. 102(b) as being anticipated by Davis et al. (GB 2 145 708).

Davis et al. teaches a antimicrobial composition and a method of water treatment comprising THP and a biopenetrant such as dispersants (See particularly page 1, line 63-65; and page 2, lines 21-25). Davis et al. also teaches the concentration of THP is 10-30 ppm (See particularly page 2, 3-10).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 3-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Davis et al. (GB 2 145 708) in view of Legros (WO91/04668 from the Information Disclosure Statement received June 21, 2000), Gerhold (WO96/14092), Bardoliwalla et al. (US Patent 4,599,372), West et al. (US Patent 4,602,011), and Davis et al. (EP 0491 391).

Davis '708 teaches an antimicrobial composition comprising THP and a biopenetrant such as dispersants (See particularly page 1, line 63-65; and page 2, lines 21-25). Davis '708 also teaches the concentration of THP is 10-30 ppm (See particularly page 2, 3-10). Davis et al. also teaches the condensate of THP with urea may be used in the composition (See particularly claim 7).

Davis '708 does not expressly teach the use of a quaternary ammonium compound in the composition. Davis '708 does not expressly teach the use of poly[oxyethylene(dimethyliminio)ethylene(dimethyliminio)ethylene dichloride] in the composition. Davis '708 does not expressly teach the use of an alkyl benzene sulphonate having less than 5 aliphatic carbon atoms in the composition. Davis '708 does not expressly teach the use of glycol ether in the composition. Davis '708 does not expressly teach the use of phosphono polycarboxylic acid in the composition. Davis '708 does not expressly teach the use of 10 to 75% of THP and 0.1 to 10% of biopenetrant in the composition. Davis '708 does not expressly teach the use of surfactant in the composition.

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Legros teaches the use of a quaternary ammonium compound in the water disinfecting composition (See particularly abstract; also page 3, line 1 – page 4, line 34; compound of formula I).

Gerhold teaches a biocidal composition employing poly[oxyethylene(dimethyliminio)ethylene(dimethyliminio)ethylene dichloride] as one of the active agent (See particularly page 5, line 14-16). In addition, Gerhold teaches that the biocidal composition may be used with surfactant (See particularly page 8, line 34- page 9, line 33). Moreover, Gerhold teaches that alkyl benzene sulphonate may be useful in forming the biocidal composition (See particularly page 9, line 13).

Bardoliwalla et al. teaches that methyl carbitol is useful in the waste water treatment composition (See particularly col.1, line 8-12 and also col.6, line 15-20; and claim 2).

West et al. teaches the employment of alkyl benzene sulphonate with a carbon side chain of two to 20 carbon atoms in a antimicrobial composition (See col.1, line 18-25; also col.4, line 15-18).

Davis '391 teaches that a phosphono polycarboxylic acid, 2-phosphono-1,2,4-tricarboxylbutane, may be used as a water treatment agent (See particularly page 2, line 16; and also page 4, line 28-36). Davis '391 also teaches the effective concentration of 2-phosphono-1,2,4-tricarboxylbutane should be 0.5 to 96% (See page 5, line 51-54).

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It would have been obvious for one of ordinary skill in the art at the time the invention was made to incorporate any of the agents herein to form a antimicrobial water treatment composition with 10 to 75% of THP and 0.1 to 10% of biopenetrant.

One of ordinary skill in the art would have been motivated to incorporate any of the agents herein to form a antimicrobial water treatment composition with 10 to 75% of THP and 0.1 to 10% of biopenetrant because combining the agents herein which are known to be useful to antimicrobial, water treating methods individually into a single composition useful for the very same purpose is prima facie obvious. See *In re Kerkhoven* 205 USPQ 1069. Furthermore, the optimization of result effect parameters (dosage range, dosing regimens) is obvious as being within the skill of the artisan.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to San-ming Hui whose telephone number is (703) 305-1002. The examiner can normally be reached on Monday to Friday from 8:30 to 5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Minna Moezie, J.D., can be reached on (703) 308-4612. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 308-4556 for regular communications and (703) 308-4556 for After Final communications.

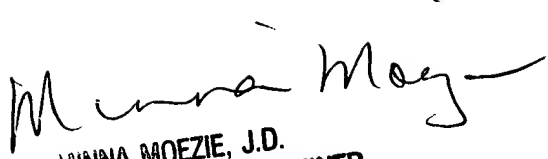
Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-1235.

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San-ming Hui
July 30, 2001


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